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ABSTRACT

This document contains four symposium papers on learning organization issues. "How Action Learning Builds the Learning Organization: A Conceptual Analysis" (Michael Marquardt, Ty Alexander) is a systematic examination of four subsystems of learning organizations (learning dynamics, organization renewal, people empowerment, knowledge management) and how action learning builds each subsystem. "Enhancing Individual and Organizational Learning: A Sociological Model" (Andrea Casey) proposes a theoretical model of organizational learning that is based on the sociological work of Talcott Parsons, defines organizational learning as a dynamic process of knowledge creation, and integrates and addresses the learning needs of individuals and organizations. "Predictors of Learning Organizations: A Human Resource Development Practitioner's Perspective" (Orlando V. Griego, Gary D. Geroy) reports on a study of 48 human resource development professionals' perceptions that identified these two predictors of learning organizations: (1) rewards and recognition and (2) training and education. "Action Learning and Systems-level Continuous Learning" (Judith A. O'Neil) discusses the results of an evaluation of an ongoing 2-year action learning program at a major northeastern utility company that demonstrated how action learning can help create the capacity for systems-level continuous learning. (MN)

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Learning Organization Issues

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How Action Learning Builds the Learning Organization: A Conceptual Analysis

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Keywords: Action Learning; Learning Organization; Organizational Learning

Marquardt and Carter (1998) observe that "perhaps action learning's most useful role is in creating learning organizations. Revans (1982) states that "the most precious asset of any organization is the one most readily overlooked – its capacity to build on lived experience, to learn from challenges and to turn in a better performance by inviting all and sundry to work out for themselves what that performance might be" (p. 286).

Senge (1990) states that a learning organization must be able to integrate work with learning, that only through continuously reflecting on our activities can we become a learning organization. As Revans (1982) notes, action learning creates constant learning opportunities for people. It creates a culture and morale for learning.

Perhaps no tool is more effective in building a learning organization than action learning. Lex Dilworth (1995) has called action learning "the DNA of a learning organization" since action learning both enables and forces organizations to continuously learn on an organization-wide basis and thereby be better able to adapt to the continuously changing environment.

Keys (1994) remarks that "action learning is a truly unique organizational learning process that is growing in acceptance. Although originally designed as a managerial learning process, it offers excellent opportunities for promoting strategic organizational learning. Two significant events are occurring within action learning groups that help to create learning organizations:

1. Team members are resolving problems, the solutions to which are passed to clients and are themselves learning processes and relevant information valuable for future problem-solving episodes

2. The body of institutional knowledge and the pace of institutional learning is accelerating in user organizations

There are many elements of action learning that contribute to the building of a learning organization. Action learning:

- is outcome oriented
- is designed to systematically transfer knowledge throughout the organization
- enables people to learn by doing
- helps develop learning how to learn skills
- encourages continual learning
- creates a learning culture; learning becomes a way of life
- is an active rather than a passive approach
- is done mainly on the job rather than off the job
- allows for mistakes and experimentation
- develops skills of critical reflection and reframing
- is a mechanism for developing learning skills and behavior
- demonstrates the benefits of organizational learning
- models working and learning simultaneously
- is problem-focused rather than hierarchically bound
- provides network for sharing, supporting, giving feedback and challenging assumptions
- develops ability to generate information
- breaks down barriers between people and across traditional organizational boundaries
- helps an organization move from a culture of training (in which someone else determines and provides your development) to a culture of learning (everyone is responsible for their own continuous learning)
- is systems-based

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- applies learnings to other parts of the organization as appropriate (Marquardt and Reynolds, 1994; Marquardt, 1997; Marquardt, 1998)

Four Subsystems of the Learning Organization

Each of these characteristics is part and parcel of the systems approach of viewing a learning organization. In this systems learning organization model, there are four subsystems (1) learning dynamics, (2) organization renewal, (3) people empowerment, and (4) knowledge management) that interface and support one another, all of which are strengthened via action learning (Marquardt, 1996)

Learning Subsystem

The learning subsystem refers to (a) levels of learning, (b) types of learning and (c) learning skills.

Levels of Learning

There are three levels of learning present in learning organizations:

Individual learning refers to the change of skills, insights, knowledge, attitudes and values acquired by a person through self-study, technology-based instruction, and observation.

Group or team learning alludes to the increase in knowledge, skills and competency that is accomplished by and within groups.

Organization learning represents the enhanced intellectual and productive capability gained through corporate-wide commitment and opportunity to continuous improvement. It differs from individual and group/team learning in two basic respects. First, organizational learning occurs through the shared insights, knowledge and mental models of members of the organization. Second, organizational learning builds on past knowledge and experience, on organizational memory that depends on institutional mechanisms (e.g., policies, strategies, and explicit models) used to retain knowledge.

Types of Learning

There are several types or ways of learning that are of significance and value to the learning organization. Although each type is distinctive, there is often overlap and complementarity of the various types. Therefore, a particular learning occurrence may be classified as being of more than one type.

Adaptive learning is learning from the experience and reflection.

Anticipatory learning is the process of acquiring knowledge from expecting the future (a vision-action-reflection approach) whereas **generative learning** is the learning that is created from reflection, analysis or creativity.

Single-loop, double loop and deutero learning are types of learning are differentiated by the degree of reflection placed on action that has occurred in the organization.

Skills of Organizational Learning

Four key skills are needed to initiate and maximize organizational learning, namely,

Systems thinking which represents a conceptual framework one uses to make full patterns clearer, and to help one see how to change them effectively

Mental models are the deeply ingrained assumptions that influence how we understand the world and how we take action. For example, our mental model or image of learning or work or patriotism impacts how we relate and act in situations where those concepts are operating.

Personal mastery indicates the high level of proficiency in a subject or skill area. It requires a commitment to lifelong learning so as to develop an expertise or special, enjoyed proficiency in whatever one does iin the organization

Dialogue denotes the high-level of listening and communication between people. It requires the free and creative exploration of subtle issues, a deep listening to one another and suspending of one's own views. The disciplline of dialogue involves learning how to recognize the patterns of interaction in teams that promote or undermine learning. For example, the patterns of defensiveness are often deeply ingrained in how a group of people: or an organization operates. If unrecognized or avoided, they undermine learning. If recognized and surfaced creatively, they can actually accelerate learning. Dialogue is the critical medium for connecting, inventimg and coordinating learning and action in the workplace.

How Action Learning Builds the Learning Subsystem

Action learning programs encourage and enable significant levels of learning to occur at the team and individual levels during the action learning sets. Perhaps, there is no greater demonstration of true team learning that what occurs during such set meetings where the entire group is developing common basic assumptions, common understanding of the problem and common growth in developing new knowledge. Usually, at the end of the action learning meeting, the set seeks to identify ways in which its learning can be applied to the organization and thereby create organization-wide learning.

All types of learning are sought and developed in action learning programs. In reflecting on past actions, the group attempts to adapt the new action to better respond to the environment. Anticipatory learning is acquired through the group's analysis of a variety of possible future scenarios or impacts of various actions. Almost continuously, action learning sets are generating innovative, new creative knowledge. Finally, the time and space provided for deep and frequent reflection during the action learning sets provides the avenue for single, double, and even deutero learning.

Action learning provides the opportunity for people in the organization to build each of these learning disciplines. In action learning sets we can reflect on our actions and the assumptions that underlie them. Action learning promotes "a depth and intensity of dialogue that is uncommon in the normal life experience." (Dilworth, 1998).

Revans (1982) notes that it is the "social dimension of action learning that provides the challenge to misconceptions and ingrained mental schemata which predispose a person to overlook the ways in which he/she needs to change." In action learning we can explore real problems in a non-defensive way with supportive colleagues who feel free to criticize, question and advise. Inherent in this approach is the ability to acknowledge that we frequently act in ways that may be incongruent with what we espouse.

Organization Subsystem

The second subsystem of a learning organization is the organization itself, the setting and body in whiich the learning itself occurs. The four key dimensions or components of this subsystem are vision, culture, strategy, and structure

Culture refers to the values, beliefs, practices, rituals and customs of an organization. It helps to shape behavior and to fashion perceptions. In a learning organization, the corporate culture is one in which learning is recognized as absolutely critical for business success, where learning has become a habit and an integrated part of all organizational functions. This rich adaptable culture creates integrated relationships and enhances learning by encouraging values such as teamwork, self-management, empowerment and sharing. It is the opposite of a closed, rigid, bureaucratic architecture. Risks are encouraged and past methods are to be challenged.

Vision captures a company's hopes, goals, and direction for the future. It is the image of the organizatiom that is transmitted inside and outside the organization. In a learning organization it depicts and portrays the desired future picture of the company in which learning and learners create continuously new and improving products and services. A shared company vision is one that fosters genuine commitment and enrollment rather than compliance.

Strategy relates to the action plans, methodologies, tactics and steps that are employed to reach a company's vision and goals. In a learning organization, these are strategies that optimize the learning acquired, transferred and utilized in all company actions and operations.

Structure includes the departments, levels, and configurations of the company. A learning organization is a streamlined, flat, boundaryless structure that maximizes contact, information flow, local responsibility and collaboration within and outside the organization.

How Action Learning Builds the Organization Subsystem

The culture created in action learning programs is one where learning is the most important and valuable objective. Throughout the action learning process there is an emphasis on how the group can continue to expand upon and speed up their knowledge and learning capacities. Members are encouraged and expected to take risks and try new ways. They recognize that much of the greatest leaps in learning have come from learning from mistakes made.

Garratt (1991) remarks how action learning is particularly valuable in helping organizations develop a vision and culture committed to continuous learning. Schein (1993), a pioneer in understanding organizational culture and organizational change, notes that "for change (learning) to occur, the organization must unlearn previous beliefs, be open to new inputs and relearn new assumptions and behaviors." Action learning is a powerful tool in helping to change these values and create these new visions.

Action learning organizations have a bias for reflection-in-action. The capacity to quickly take action and to generate information is critical to organizations. Senge (1990) observes that "learning cannot exist apart from action. Action provides a basis for the critical dimension of reflection." It is the expressed strategy of an action learning program to build in time, space and opportunities for learning. And no strategy is more powerful for producing organization-wide learning than getting large numbers of employees involved in action learning programs.

The structure of an action learning set is very fluid and flexible. Keeping the flow of questions and knowledge as clear and complete as possible is critical in processes such as reframing the problem, identifying possible actions, and providing frank feedback to one another. Needless protocol and bureaucracy and administrivia are discouraged. Leadership flows easily throughout the group.

People Subsystem

The people subsystem of the learning organization includes employees, managers/leaders, customers, business partners (suppliers, vendors, and sub-contractors) and the community itself. Each of these groups is valuable to the learning organization, and all need to be empowered and enabled to learn.

Employees as learners are empowered and expected to learn, to plan for their future competencies, to take action and risks, and to take the initiative to solve problems. In learning organizations, they should be treated as mature, adult learners and be given authority and responsibility according to their learning capacities.

Managers/Leaders as learners carry out coaching, mentoring, and modeling roles with a primary responsibility of generating and enhancing learning opportunities for people around them. In addition to managing people, they should become proficient at managing knowledge. Revans (1980) once remarked, "encouraging autonomous learning is not managerial abdication." And finally, leaders should become champions of learning projects, including action learning programs

Customers can be a valuable source of information and ideas. They should thus be closely linked into the learning system and strategy of the organization. When possible, they should be offered training so as to become wiser customers and better able to advise relative to their future expectations from the company.

Partners, suppliers, and dealers as learners can receive and contribute to instructional programs. They can also benefit by sharing competencies and knowledge with the organization. Learning from and with suppliers, dealers, and partners should be a regular strategy of learning organizations.

Community groups as learners include social, educational and economic agencies that can share in the providing and receiving of learning. Involving the potential diversity of all these groups enhances product and service development.

How Action Learning Builds the People Subsystem

Action learning recognizes the importance of involving people from throughout the business chain in the problem-solving process. Action learning sets are most effective when customers, suppliers, and interested community members come together to ask fresh questions and share fresh perspectives.

Empowering people to take responsibility for themselves rather than waiting for outside expertise is a key value of action learning. Limerick et al. (1994) point out that there is within action learning programs "the explicit recognition that management's role is to provide continuous opportunities for employees' self-development."

Pedler (1991) notes that in learning organizations, a primary task of managers is to facilitate the staff's learning from experience. Through the experience of action learning, managers will recognize the importance of making time for seeking feedback, for obtaining data from a variety of perspectives, for encouraging new actions for old and new problems. They will also perceive the value in questioning their own ideas, basic assumptions, attitudes and actions.

Building learning alliances help organizations to achieve continuous improvement and develop the capacity to cope with discontinuous change. Learning from fresh faces is critical for success in action learning as it is in organizations. New partner and perspectives can:

- enlarge the range of the continuous environmental scanning ability of those in the alliance
- bring a wide analytical range, and a wider range of assumptions to the learning process, so that discontinuities are more likely to be recognized
- help member recognize and overcome defensive routines so that they can be more transcendent.
- take place at multiple levels within the alliance, and improve the learning of all members
- open up the boundaries of the organization, and make possible completely new organizational forms, constantly open to importing chaos and evolving new forms of order (Limerick et al., p. 36)

The origins of action learning can be traced to the creation of a learning alliance among colliery managers in Britain following nationalization of the British coal industry. Revans describes how he established a group of 22 managers, drawn from pits in England and Wales, to work together over 3 years on problems they identified as critical to their operations. Revans also developed alliances between medical professionals across a number of London hospitals and will as a learning community through a consortium of leading industrial organizations in Belgium

Knowledge Subsystem

The knowledge subsystem of a learning organization refers to the management of acquired and generated knowledge of the organization. It includes the acquisition, creation, storage, transfer and utilization of knowledge.

> **Acquisition** refers to the collection of existing data and information from within and outside the organization via benchmarking, conferences, environmental scans, Internet, use of consultants, publications, and research
>
> **Creation** involves new knowledge that is created within the organization through problem solving and insights as well as the conversion of tacit and explicit knowledge. Experimentation, demonstration projects, and reflecting on past and current programs increase the innovativeness of the company.
>
> **Storage** is the coding and preserving of the organization's valued knowledge for easy access by any staff member, at any time, and from anywhere. The knowledge should be categorized according to learning needs, work objective, user expertise, and function. It needs to be structured and stored so that it can be found and delivered quickly and accurately.
>
> **Transfer and utilization** includes the mechanical, electronic and interpersonal movement of information and knowledge, both intentionally and unintentionally, throughout the organization as well as its application and use by members of the organization.

The knowledge elements of organizational learning are ongoing and interactive instead of sequential and independent. The collection and distribution of information occurs through multiple channels, each having different time frames. An example is an on-line newsletter, which systematically gathers, organizes, and disseminates the collective knowledge of the organization's members.

Technology is needed to quickly and adequately implement all four stages of the knowledge management. Technology includes the supporting, integrated technological networks and information tools that allow access to and exchange of information and learning. It includes technical processes, systems, and structure for collaboration, coaching, coordination, and other knowledge skills. It encompasses electronic tools and advanced methods for learning, such as computer conferencing, simulation, and computer supported collaboration. All these tools work to create knowledge freeways. Good knowledge management is not possible with the use of technology.

How Action Learning Builds the Knowledge Subsystem

Acquiring Knowledge: Action learning organizations are information-rich. In action learning sets members recognize the importance of acquiring information not only from external resources but also the value of tapping the tacit, internal wisdom and experience of each other. The internal networks developed in action learning sets heighten the awareness of organizational resources, facilitate exchanging and sharing of ideas, and generates knowledge.

Creating Knowledge: Participants in action learning programs understand that they should seek new ways of solving old problems, that the old knowledge may no longer be sufficient. Thus, members are constantly creating new knowledge and to encourage innovation within the set. Nonaka (1994) suggests that information creation is a fundamental requirement for the self-renewing (i.e., learning) organization. An autonomous self-organizing group begins to be realized when members are given the freedom to combine thought and action at their own discretion and are thereby able to guarantee the unity of knowledge and action. The actions of action learning clarify and generate meanings.

Storing Knowledge: Knowing knowledge to store and why is based upon the organization's ability to make sense of the data encompassing and surrounding it. The company must then develop sense-making categories for coding and retaining value-added knowledge. Through its ongoing reflection on learning and the knowledge acquired, action learning programs lends themselves well to the Kantian school of thinking which "positions sense-making above mere sensing" (Botham and Vick, 1998). By reflecting on action, the set develops the ability to "make meaning" of the data collected and stored.

Transferring and Testing Knowledge: During the reflection periods, self-learnings become more explicit and intentional. Set members capture and store for themselves the knowledge and wisdom that will help them become better in both their professional and personal lives. Finally, action learning groups continuously seek ways in which they can transfer the learnings, wisdom, and experience gained in resolving the set's problem(s) to the organizations and communities in which they work.

Action Learning – The Cornerstone of a Learning Organization

Learning quickly and systematically is critical for surviving in the 21st century. The organization that makes learning its core business can rapidly leverage its new knowledge into new products, new marketing strategies, and new ways of doing business. Learning organizations will become the only place where global success is possible, where quality is more assured, and where energetic and talented people want to be. More and more organizations are seeing action learning as the vehicle to help them become learning organizations and to arrive safe and well into the next century.

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Enhancing Individual and Organizational Learning: A Sociological Model

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A theoretical model of organizational learning is proposed to integrate and address the learning needs of individuals and organizations. This model, based on the sociological work of Talcott Parsons, definesorganizational learning as a dynamic process of knowledge creation. Implications for human resourcedevelopment in organizations are explored.

Keywords: Organizational Learning, Social Learning theory, Adult Learning

Individual learning in organizations is seen as a critical factor in an organization's capacity to change and survive over time (Nonaka, 1994; Senge, 1990). Major shifts in internal and external organizational environments impact learning at all levels. These shifts are frequent, diverse, sometimes unpredictable and, at other times, planned. For example, a large number of tenured administrators may leave a firm as a result of a merger and the organizations involved may lose valuable knowledge and expertise. Mergers or acquisitions also require all staff to learn and understand the mission, culture, policies, and products of the newly created organization.

Formal training and education are traditionally two of the organizational strategies of choice to attempt to adapt to environmental jolts. Human resource development (HRD) professionals in organizations have relied upon adult learning theories (Knowles, 1990) and training design (Nadler, 1982) to guide the development of learning activities for staff adapting to changing workplaces. Despite our current knowledge in HRD, learning outcomes are frequently uneven, unpredictable and often temporary. Although the influence of the workplace is acknowledged and incorporated in much of this literature and links are made to organizational learning (Marsick & Watkins, 1990), the focus has remained on individuals learning in organizations.

Organizational learning has also been proposed as critical to organizational survival particularly in times of rapid and revolutionary environmental changes. For over 40 years, theoretical models of organizational learning have been proposed and numerous typologies developed, yet it has only been in the past decade that empirical research has been conducted. Organizational learning has alternately been defined as adaptation and behavioral change or as a process of knowledge creation (Glynn, Milliken & Lant, 1994). The focus of many of these models has been on individual learning while others have focused only on organizational level learning yet rarely do either draw upon the work in adult learning.

This paper links the literature on organizational learning and adult learning and proposes a sociological model of organizational learning or knowledge creation for HRD professionals to use as a guide to meeting the learning needs of individuals and organizations. Maximizing all forms of learning or knowledge creation, whether individual or collective, formal or informal, may be the most effective strategy to assure individual and organizational effectiveness over time.

Theoretical Foundations and Definitions of Learning

Adult Learning

One of the basic assumptions of this paper is that both the process and outcomes of individual learning are inherently social. As early as 1926, Lindeman, one of the founders of the adult education movement, noted "we can progress not by giving attention to either organism or environment but to both and in relation to each other (p. 49). This interrelationship between the learner and the environment has been a continuing theme in adult education. Jarvis (1987) states that "learning is not just a psychological process but is intimately related to that world and affected by it...people take on the knowledge, values, beliefs, and attitudes of the society in which we live" (p. 11). This society may be the larger society in "which we live" as well as the society or culture of the organizations in which we work and spend most of our lives. The discussion of learning in this paper centers on learning in the workplace.

Not only are individuals and organizations part of interconnected learning systems, the knowledge and skills to be learned are social products (Chene, 1983). The new knowledge to be learned in a medical setting or manufacturing company may be created by university research centers or the professions in which people are

employed. How this knowledge is used on the job is frequently socially influenced by the work group in which someone lives.

This paper will draw on Marsick and Watkins' (1990) definition of learning as the way "in which individuals or groups acquire, interpret, reorganize, change or assimilate a related cluster of information, skills and feelings. It is also primary to the way in which people construct meaning in their personal and shared organizational lives" (p. 4). From this definition, Marsick and Watkins (1990) propose three types of learning that may take place in organizations.

Formal Learning

Traditionally individual learning in organizations is seen as an outcome of formal training and development programs in classrooms away from the actual work site. Formal training and education have been the mainstay of staff development in organizations.

Informal Learning

It is predicted that approximately 83% (Marsick & Watkins, 1990) to 90% (Sorohan, 1993) of the learning in organizations occurs through interaction in our day-to-day work through informal and incidental learning. There is a mixture of definitions of informal learning some equating it to unintentional learning while others relate it to autonomy (Garrick, 1998). This paper will use Marsick and Watkins' (1990) definition i.e. it is usually learning that "may include incidental learning and occur in institutions but is not typically classroom based or highly structured and control of the learning rests in the hands of the learner" (p. 12).

Incidental Learning

Marsick and Watkins (1990) define incidental learning as a "byproduct of some other activity such as task accomplishment, interpersonal interaction, sensing the organizational culture or trial and error experimentation" (p. 7). It can occur in organizations when individuals learn about the organizational culture by the way a needs assessment is conducted, or performance is assessed and rewarded. Frequently organizational members' learning is more powerfully shaped by the technical systems, policies, and processes in the organization than by more formal attempts to produce learning outcomes.

Despite the emphasis on individual or adult learning as a social process with social products or outcomes, the theoretical underpinnings of the work on adult learning are primarily focused on the individual and based in disciplines such as psychology and education. In organizations as well the emphasis remains on learning at the individual level with individual development plans as well as assessments of individuals' skills and abilities.

Organizational Learning

Similar to individual learning, definitions of organizational learning are numerous, multiple theoretical models have been proposed, typologies have been delineated (Shrivastava, 1983), and factors thought to influence the process of organizational learning have been identified and discussed (Huber 1991; Hedberg, 1981; Miner & Mezias, 1996). The construct of organizational learning emerged approximately 40 years ago with the work of Dearborn and Simon (1958). In several ways the organizational learning literature has paralleled the research and thought on individual learning beginning with more stimulus-response models and moving to information processing or knowledge creation perspectives. The two primary frameworks that emerge from the literature on organizational learning are behavior change (adaptation) and cognition (knowledge creation) (Glynn, Milliken, & Lant, 1994). Underlying the definitions of organizational learning in these frameworks are varying assumptions regarding learning.

The organizational learning theories of knowledge creation focus on the process of how knowledge is created, stored and transmitted while the adaptation theories evolve from the stimulus-response concepts of learning and describe how organizations change based on their experience (March & Olsen, 1976; Levitt & March, 1988; Fiol & Lyles, 1985). In most theories, knowledge creation is viewed as a social process (Duncan & Weiss, 1979; Schwandt, 1997) that is dependent on shared assumptions or frameworks for communication in organizations.

A similar and sometimes overlapping body of literature has developed under the general framework of knowledge creation in organizations. Many models of knowledge creation are based on theories of individual knowledge yet maintain that knowledge creation is a social process (Nonaka, 1994; Schwandt, 1997). Although knowledge is argued to be "...the property of individuals a great deal of knowledge is both produced and held collectively (Brown & Duguid, 1998, p. 90). Another commonality in the knowledge creation literature is the distinction between knowledge that is learned through experience and knowledge that is transmitted through other

means. This more tacit or procedural knowledge, the "know how" referred to by Brown and Duguid (1998) is usually learned through interaction with others (Kogut & Zander, 1996) in environments such as communities of practice (Brown & Duguid, 1998).

Summary

The definitions of learning discussed above focus on action as well as cognition. The implied outcomes of individual and organizational learning are change or to increase the adaptive capacity to survive through the creation of knowledge. The theoretical base for learning in organizations has been primarily individual learning theories. This paper proposes the sociological work of Talcott Parsons as a theoretical base for learning interventions in organizations. Using Talcott Parsons' (1951) general theory of action as a framework, individuals and organizations can be viewed as learning systems with similar required functions and learning needs arising to facilitate these functions. Marsick and Watkins' (1990) work is used to further expand this framework. In this paper, learning needs and strategies to fulfill them are discussed in the context of this model and its functions and subsystems.

Parsons' Theory of Action

Parsons theorized that the collective (organization) is an amalgamation of actors, objects, and norms and is characterized by social phenomena that are more than just the sum of individual behaviors and attitudes of the individual actors. It is characterized as interrelated systems of actions emerging from various levels of analysis i.e. individual, group and organization. Parsons' systems theory of action suggests that both performance and learning processes have the capacity to change or disrupt the equilibrium in the organization-situation relationship. However, change in a "social system" itself occurs through the learning process, not just the performance process (Schwandt, 1995).

The focus of Parsons' general theory of action is the establishment of a systematic relationship between the "actions" of the members of the social system (actors) and their collective ability to adapt to both inside and outside environments. Parsons describes four sets of actions as generic functional prerequisites of a system in response to critical issues associated with survival. Each subsystem of action carries out one of the four prerequisite functions necessary for the survival of the total system (Schwandt, 1997). The four functional prerequisites are:

> Adaptation is the complex of unit-acts which serves to establish relations between the system and its external environment...consists of taking diverse resources needed by the system for the environing systems, in exchange for products originating within the system itself" (Rocher, 1975, p. 41).
>
> Goal attainment is "all actions which serve to define the goals of the system to mobilize and manage resources and efforts to attain goals and gratification" (Rocher, 1975, p. 42)
>
> Integration is to "establish control, to inhibit deviant tendencies, to maintain coordination between parts, and to avoid too serious disturbances" (Rocher, 1975, p. 42)
>
> Latency or pattern maintenance is the "point of contact between systems of action and the symbolic and cultural universe. A system of actions which accumulates and distributes energy in the form of motivation" (Rocher, 1975, p. 42).

These functions can be generalized to all levels of analysis (individual, group, organization, society) as well as all types of systems such as biological and social. The prerequisite relationships allowed Parsons to describe the purpose of each action subsystem as it relates to the total system of action. These subsystems of action do not function independently. They interact and Parsons describes this relationship as a process of mutual exchange among the subsystems (Schwandt, 1997). He defines the elements of exchange as inputs and outputs or as media of interchange.

A Sociological Model of Organizational Learning

Grounded in Parsonian theory, the organizational learning model developed in this paper focuses on the learning of an organization as a social system. It provides a way of viewing organizational behavior that can explain how people collectively engage in the dynamic social actions associated with learning. It is focused on the system's ability to adapt to its environment not just through a performance orientation but rather through actions (learning) that influence the collective cultural values. In this paper, organizational learning is defined as "a system of actions, actors, symbols and processes that enables an organization to transform information into valued knowledge which in turn increases its long-run adaptive capacity" (Schwandt, 1997, p. 343).

Parallel to the general system of action, the organizational learning system carries out four functional prerequisites so that learning capacity is maintained for the collective. It is postulated that these prerequisite functions are carried out by four learning subsystems. These subsystems and their prerequisite functions are: environmental interface (adaptation) which serves as the information portal for the organizational learning system; the action-reflection subsystem (goal attainment) which consists of the activities the collective uses to accomplish goals of the organizational learning system; structuring subsystem (integration) which is characterized by its ability to match information and knowledge transfer actions with the requirements of other subsystems including integrative acts such as networking, and creating policies; and finally the meaning-memory subsystem (pattern maintenance) that provides the collective meaning and memories. Dysfunction in one learning subsystem will jeopardize the effectiveness of the whole system since each learning subsystem is dependent upon inputs from other subsystems. These interdependent relations are maintained through interchange mechanisms called "interchange media."

Although the use of Parsons' work may invite controversy, no other American sociologist is so widely used in the development of organizational theory (Schein, 1991; Quinn, 1990; Dennison, 1990; Schwandt, 1997). Parsons' theory of action does not constrain us to static predictable interpretations of social systems. Instead the prerequisite functional patterns of actions provide a better understanding of the dynamic social nature of collective learning. Parsons' general theory of action provides "a cross disciplinary (sociology, psychology, biology, and anthropology) synthesis as opposed to a sterile and fragmented model" (Schwandt, 1997, p. 344) from traditional disciplines (Burrell, Reed, Calas, Smircich, & Alvesson, 1994). Empirical research (Casey, 1997; Gray, 1995; Gundlach, 1994) as well as field studies on this model are currently underway.

This paper proposes this sociological model of organizational learning as a guide to developing learning interventions in organizations. Using Talcott Parsons' work, individuals and organizations can be viewed as learning systems with similar required functions and learning needs that arise to facilitate these functions. In the following section, these learning needs and strategies to fulfill them are discussed in the context of this model and its functions and subsystems.

Meeting the Learning Needs of Individuals and Organizations through Multiple Forms of Learning

This section will discuss how organizational and individual learning needs that arise to meet the functional requirements of the learning system may be met. To facilitate discussion and exploration of this model, an example of an integrated strategic planning process following the merger of two companies will be discussed. Strategic planning is common to all organizations as they adapt to changes in the environment and is frequently undertaken following the merger of two companies. In many organizations, strategic plans are developed exclusively by a executive team in a retreat setting. Yet including staff in the planning process can address the required functions of the learning systems and related learning needs through formal, informal, and incidental learning.

Adaptation (Environmental Interface Subsystem)

Organizations and individuals respond continuously to multiple external environments as they adapt and survive. The strategic planning process is an organizational response to changes or potential changes in a market. It can also be a process for gathering information about the external and internal environments to meet the adaptation needs of the organizational learning system particularly if staff are involved in the planning process. Staff involvement in the process can bring their knowledge and an awareness of their needs to the process. In addition, staff through formal and informal learning in sessions develop a greater understanding of the organization's potential and restrictions. Incidental learning may result in tacit knowledge that includes understanding the value the organization places on the input of staff and their concerns.

Through involvement in strategic planning, individual learning needs of staff are met by helping them adapt to the new organization. Individual learning needs may include a desire for more information about the future of the new organization, the consumers it will serve and the product changes to be expected. Involvement in the strategic planning process meets some of these learning needs though the formal, informal, and incidental learning that occurs during the planning. Explicit knowledge may be transmitted formally about the new administration, and consumers interests and demands. Informal settings such as "breaks" or hallway discussions may provide information about new staff in the organization and their roles through incidental learning. Incidental learning about strategic planning processes or group dynamics may happen through involvement in small work groups during the process.

Goal Attainment (Action Reflection Subsystem)

Many learning needs may arise as organizations create and act upon goals and objectives. At the organizational level, following a merger, the organizational mission may change and the goals and related objectives need to be created through strategic planning. The strategic planning process offers time for collective action and reflection regarding directions and goals.

A corresponding individual learning need might be to better understand the changes in the mission and goals of the organization and how these changes will affect roles in a department. This knowledge may be obtained through formal learning in sessions. Action and reflection of individuals in small groups in the planning process may facilitate an individual's understanding of the relationship of these goals to his/her work.

Integration (Structuring Subsystem)

Many strategies are designed to integrate organizations. Dissemination, the more formal procedure for achieving this integration, is frequently accomplished through formal communication procedures in a firm. An organizational learning need that occurs in a newly created organization is how to establish the most effective mechanisms for this formal communication. A corresponding individual learning need of staff in this organization may be to understand new communication channels in the firm.

Diffusion, the informal means for integration, relies upon informal networks that exist among staff. An organizational learning need may arise in a newly created organization related to the establishment of teams within or across units to facilitate these informal networks. Individual learning needs may include a manager's desire to understand how to encourage team work as these units are formed or how to identify and access a "grapevine."

The strategic planning process, while meeting the needs of the performance system of an organization, can also meet organizational learning needs such as the need to integrate staff formerly from two organizations into one newly created firm. The planning process can facilitate meeting this need by involving all staff in the planning process in cross-functional small work groups. Formal learning transmitting explicit knowledge about new roles and expectations may occur during the planning process. Informal learning in hallways may occur as individuals discuss their new roles in the organization. Incidental learning may involve tacit knowledge of group facilitation or an understanding of the philosophy of the new management.

Pattern Maintenance (Meaning/Memory Subsystem)

Meaning and memory in organizations provide the foundation for guidance and control. This subsystem plays an essential role in the culture or pattern maintenance of an organization. At the organizational level, a continuous learning need exists to create and transmit the mission, values and beliefs of the organization. For the individual, a learning need is to know and understand these beliefs and values i.e. "how things are done around here." In the strategic planning process, tacit knowledge of the organizational culture may be gained through incidental learning that occurs in small and large groups during the planning process. Explicit knowledge may be created as the results of the process are formally disseminated to staff and consumers. By designing a process that involves staff in the development of the mission and goals, meaning and memory are engaged as people share the meaning of the goals and objectives through discussion of past goals, the histories of the organizations, etc.

Linking Individual and Organizational Learning Needs

Integrating individual and organizational learning is difficult to accomplish. This has stemmed in part from relying on individual level learning theories or upon organizational theories alone. This paper proposes an integration of

these theories through a sociological framework of organizational learning. Enhancing multiple forms of learning through this framework can meet individual as well as organizational learning needs in addition to facilitating the required functions of a learning system. To achieve this integration, the responsibility for learning in organizations will need to be broadened from the HRD function to all staff in the organization.

At the individual level, staff would be encouraged to be responsible for their own learning. In addition, as is currently the case in many organizations, managers would be charged with fostering the development of staff. Using the organizational model proposed in this paper as a guide, learning plans can be developed keeping in mind all forms of learning and the required functions of a learning system. As learning plans are developed, basic questions related to the required functions of systems could be asked. Examples of questions are given in Table 1 below.

Table 1

Diagnosing Leaning Needs
Organizational Action: Strategic Planning in Response to a Merger

	Basic Questions to be Asked	Individual (Example of Identified Learning Need)	Organization (Examples of Identified Learning Need)
Adaptation (Environmental Interface)	How can the individual/ organization obtain environmental information?	Understand needs for products and services	Obtain staff input on needed products and services.
Goal Attainment (Action/Reflection)	How can the individual/ organization establish and meet goals?	Translate organzational goals into personal goals.	Act and reflect to determine goals.
Integration (Structuring)	How can the individual/ organization be integrated both internally and with other systems?	Understand his/her role in relationship to other roles and structure of the organization.	Communicate information about the strategic planning process and the goals and objectives of the organization.
Pattern Maintenance (Meaning/Memory)	How can the individual/ organization create meaning in the work of the organization?	Understand the values and beliefs of the organization.	Transmit the values and beliefs of the organization through the strategic planning process.

At the group or team level, managers could conduct a learning assessment that reflects the group as a system. For instance, a department could assess if the culture of the group fosters informal learning among members? Are group members free to question procedures and assumptions? Are they aware of how the group or team fits with the rest of the organization? Do they as a group take time to plan and set goals based on the overall mission of the organization? How as a group do they interpret the mission of the organization?

At the organizational level, a key role of managers including HRD professionals will be to develop and maintain a culture which supports individual and organizational learning. Marsick and Watkins (1900) note actions that support continuous learning in organizations including "reflecting on practice, full and free dialogue, public experimentation and inquiry, continuous informal learning of the job fostered by networks." Dixon (1997) uses hallway conversations as a metaphor to stress the importance of informal learning in organizations and the need for an organizational culture that supports questioning of assumptions and learning in all environments.

Additionally, managers will need to focus on organizational actions and the potential consequences of these actions on learning systems at all levels. The model presented in this paper can serve as a framework for a series of questions that can guide managers as they create or respond to organizational actions by analyzing whether actions proposed facilitate the prerequisite functions of not only the performance system but the organizational learning system as well. To facilitate this learning managers need to develop a wide spectrum of skills from the more traditional knowledge of adult learning and program design to organizational diagnosis skills.

Based on this model, evaluation of learning in organizations would need to be expanded as well. Traditionally a training program based on skills development might assess if the skills were learned or possibly attempt to link the program to organizational performance. Translated to the model presented in this paper, most of the evaluation of training is focused on goal attainment function of systems. Evaluation of learning will need to be reframed to *measure variables* connected with other subsystems as well. For example, did an organizational event such as a strategic planning process contribute to the overall integration of the agency? Did the process develop meaningful goals for the agency and staff? Were these goals disseminated to each agency staff person? What was the incidental learning resulting from the process? Were the goals and the way they were developed and disseminated congruent with the culture of the organization? Are they meaningful to staff?

Summary

The process and interaction of individual and organizational learning are complex. Although considerable research has been conducted on adult learning, research is just beginning on organizational learning and knowledge creation and in the exploration of various methods of learning in the workplace. The connections between these literatures need to be strengthened to build upon the wealth of knowledge being created. The model presented in this paper explores some of the possible links between individual and organizational learning and provides a framework to question the impact of organizational actions on learning systems in organizations.

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Predictors of Learning Organizations: A Human Resource Development Practitioners Perspective

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This study sought to find predictors of learning organizations as determined by Marquardt's (1996) Learning Organization Profile. For this study, 48 professionals comprised of male, female, civilian, and military were asked to rate their perceptions about their organizations. Moreover, they were asked to rate their organizational perceptions on rewards and recognition, training and education, information flow, vision and strategy, and individual team development. The study found two predictors or learning organizations.

Keywords: Learning Organization, Rewards and Recognition, Training and Education

The learning organization is an appealing concept that reflects the aspirations of leaders today—an organization that constantly improves results based on increased performance made possible because it is growing more adroit. The purpose of our discussion is to report on an empirical study which looked at predictive practices that would enable organizations to achieve learning organization success. The outcomes of the empirical study will be put in the context of the current literature on learning organizations, and summarize practice-based variables that are applicable to developing learning organization characteristics. Finally, we will consider the research results and implications for human resource development practitioners and scholars.

Research Questions for Study

The purpose of this research was to determine predictors of learning organizations. Research questions this study addressed were:

1. Were training and education a predictor of learning organizations.
2. Were rewards and recognition a predictor of learning organizations.
3. Were vision and strategy a predictor of learning organizations.
4. Was information flow a predictor of learning organizations.
5. Was individual and team development a predictor of learning organizations.
6. Was gender a predictor of learning organizations?
7. Were military or civilian populations predictors of learning organizations?

Theoretical Framework

Learning Organizations

Since Senge's (1990) work on the "Fifth Discipline", discussions on the concept of learning organizations has grown exponentially. Crossan and Guatto's (1996) study found remarkable publication growth in the literature on learning organizations. From the 1980s to the 1990s, they discovered a 636 percent growth in general publications. It is obvious the literature and interest continues to grow. Roth and Kleiner (1995) have stated that over 150 books and articles were published about learning in organizations, or about the concept of a "learning organization" since they published their work.

It is essential to understand the practices and principles that make up a learning organization. Marsick and Watkins (1994) contend that "the learning organization is not a prescription, but rather a template for the examination of current practices. . ." (p. 354). Senge (1990), as well as other authors, have studied the characteristics obligatory for organizations to achieve learning organization levels of success (Kline & Sanders, 1993; Marquardt, 1996; Watkins & Marsick, 1993). Though important, it is also essential to provide relevant predictor data that provides for the applicability of learning organizations. However, there appears to be an empirical research void on the topic of learning organizations. The vast majority of the literature on learning organizations is

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theoretical in nature. Consequently, this study focused on current practices which predictably lead to learning organizations. Specifically, this research was intended to determine practices, or rather the "what" that leads to learning organization success.

Organizations by their very nature learn. However, some researchers like Daniels (1994) have contended that there is no shared meaning of what constitutes a learning organization. Others such as Calvert, Mobley, and Marshal (1994) contend there are no "true" learning organizations, but only organizations which exhibit certain attributes we might expect a learning organization to demonstrate. Yet others such as Morris (1993) as well as Pedler, Burgoyne, and Boydell (1990), provide a concrete definition of a learning organization as one that facilitates the learning of all its members and continuously transforms itself. Marquardt (1996) expands on this by referring to learning organizations as an "organization which learns powerfully and collectively and is continually transforming itself to better collect, manage, and use knowledge for corporate success" (p. 19). Senge (1990) refers to learning organizations as organizations where people continually expand their capacity to create the results they truly desire, where new expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together All these definitions suggest an important relationship between practices in the workplace and learning organizations.

It is important to note there is a difference between learning organizations and organizational learning. As Marquardt (1996) notes, learning organizations focus on the "what"—the characteristics, principles, and systems of an organization that produces and learns collectively. Learning organization, on the other hand, refer to the "how"—the proficiencies and processes of knowledge development. Scholars have argued that learning organizations lead to turn-around success stories in major corporations (see Garvin, 1993; Marquardt, 1995). Moreover, researchers contend that such establishments developing learning organization practices result in increased organizational performance (Kline & Saunders, 1993; Kuchinke, 1995; Slater & Narver, 1995). Whatever the argument, researchers agree that learning organizations are consequential to success.

Practitioner's Approach to Learning Organizations

Complaints often arise about the lack of relevance in the research emphasis of contemporary academics (see Fulmer, 1995). Scholars are often seen as ivory tower thinkers who have lost the practical side of research. This study is intended to move between theory in academic institutions and the practitioner-based world of human resource development. Studies have shown organization development practitioners are motivated to the field by a desire to have positive effects on people and the organization, desire to institute change, enhance organization effectiveness, exercise influence and power, and seek growth and learning (Van Eynde, Church, Hurley, & Burke, 1992).

Research regarding practitioners' activity patterns showed seven activity categories emerged: human resources planning and development, management style development, vision facilitation, job and structural design, high-technology integration, managing diversity, and planning and forecasting (Fagenson & Burke, 1990). Connor and Ulrich's (1996) work is emphasizing a new direction for HRD practitioners. They believe strategic HR functions such as developing teamwork, identifying training skills and competencies, envisioning and strategizing a customer service mindset, and global expansion are occupying the attention of human resource practitioners worldwide. Given the research on practitioners, this study categorized five HRD domains based on learning organization research. They include training and education, rewards and recognition, information flow, vision and strategy, and individual team development.

Training and Education

Training and education are key aspects of the learning organization. As Gephart, Marsick, Van Bureen, and Spiro (1996) note, training is a tool for learning; learning as a desired outcome influences performance improvement. Some scholars believe the goal of training and education in learning organizations is to reach the level of learning facilitation (Cusimano, 1996). Nadler and Nadler (1994) have noted that training leads to learning and learning leads to improved job performance. Moreover, they go on to state there are three domains of learning—skills, knowledge, and attitude. These three domains, Nadler and Nadler believe, are the result of training and education which ultimately lead to enhanced performance. McManus (1995) echoes this approach as well. He states knowledge, skills, and aptitudes are essential for organizational success and learning, and avoiding extinction, in the twenty-first century. Iles (1994) and Robinson, Clemson, and Keating (1997) join the argument by emphasizing that knowledge and skills must be developed in order for organizations to learn.

Rewards and Recognition

There is a plethora of research on this topic. In studies dating as far back to the 1940s, employees have indicated appreciation for work done and a feeling of being in on things are important to their performance (see Nelson, 1996). Nelson's treatise is that recognition boosts employees' esteem and performance and that compensation is a right, whereas recognition is a gift. Bennett and O'Brien (1994) insist rewards and recognition are essential aspects of building a learning organization. As Bennett and O'Brien say, "Reward-and-recognition systems must support and encourage individual and organizational learning. This can take many forms, from honoring individual employees who take risks to offering a profit-sharing plan that benefits everyone when the organization learns and grows" (p. 47). Lippitt (1997) contends that learning within organizations is the result of four building blocks—education, training, mastery, and recognition. Beyond the previous discussion of these first two, Lippitt believes human resource professions must create reward systems to encourage exploration, innovation, and the development of learning. Wilkinson and Kleiner (1993) concur by suggesting there are extensive benefits for both the individual and organization by recognition of learning skills including a greater sense of ownership in the organization. Wilkinson and Kleiner contend that benefits to be derived include reduced turnover and absenteeism, greater employee interest and involvement, and increased focus on organizational values and goal.

Information Flow

Camerer and Johnson (1991) refer to information as descriptive and knowledge as predictive. That is, information relates to the past and the present while knowledge provides a basis for prediction of the future based on information about the past and present. As such, learning is advanced when information flows within the organization. This flow of information is critical to organizational learning and success. Kock, McQueen, and James' (1997) study suggested optimized information flow has impacts on productivity, quality, and learning within organizations which, in turn, leads to organizational competitiveness.

Iles (1994) strongly asserts that information and knowledge must be shared across the organization if working practices are to be improved and risk-taking is to be encouraged. To do this, Iles believes the culture of the organization as a whole needs to be more openly supportive of learning. Tobin (1998) goes as far as to warn that organizations that inhibit information sharing develop into negative learning environments characterized by rigid organizational structures, policies, and procedures that force people to work in the same manner. As example, Davis' (1997) qualitative study on learning organizations found that employees were critical of managers that played games with information and were unwilling to share information. In this environment, the result is potential organizational failure.

Vision and Strategy

Both Senge (1990) and Pedler et al. (1991) make the case for development of a vision in learning organizations. A vision provides members of an organization a direction by which they can navigate. There are few if any examples of great companies who have achieved success without incorporating a vision. As Marquardt (1996) states "when there is a truly shared, genuine vision, people tend to excel and learn" (p. 46).

Robinson, Clemson, and Keating (1997) suggest that the role of learning in the organization follow two premises—there must be a shared vision and the existence of the learning system required to achieve the vision. The shared vision indicates the shared goal the future, set the direction for the organization and implies the particular type of learning system needed. The learning system provides the means. Bennett and O'Brien (1994) assert organizations and their constituents should envision their future so that they can determine the learning required to get there. Vision, Garavan (1997) indicates, is the catalyst that enables a learning organization culture to be created. Such a culture of learning takes an organization from invention to innovation. Campbell and Cairns (1997) work on developing and measuring learning organizations indicates some of the predictors listed in this study including vision and strategy, rewards and recognition, and information. As regards vision and strategy, they contend both are necessary towards measuring the success of learning organizations and developing a long term commitment.

Individual and Team Development

According to Bennett and O'Brien (1994), learning organizations should seek ways to motivate their employees to develop individually and promote the growth of teamwork. Teams, and individuals within teams, provide the means for organizations to learn effectively by continuously reinvent their work. Both teamwork and individual empowerment are required of organizations that pursue a learning organization strategy.

Senge (1990) argues team building is a vital component of building a learning organization. Much as individual empowerment is essential to success, similarly, teamwork and team empowerment is fundamental towards developing the learning capacity of an organization. Team learning starts with dialogue which is free flowing, allows members to develop new and creative ideas, and ultimately to see beyond themselves and focus on the organizational perspective (Appelbaum & Goransson, 1997). Gardiner and Whiting's (1997) empirical study on success factors in learning organizations support this notion with their results that indicated organizations were more like learning companies when they were empowered as teams and individuals.

Methodology

The independent variables, training and education, rewards and recognition, information flow, vision and strategy, and individual team development were assessed using the Learning Organization Practices Profile (O'Brien, 1994). The instrument has 12 subsystems of which 5 were used for this study. Each subsystem consists of five questions that range from 5 = strongly agree to 1 = strongly disagree. The five areas and a sample of their questions were as follows:

Vision and Strategy:
1. We have a vision of ourselves as an organization in which learning and purposeful change are expected.
2. The vision and strategy are continually updated, based on changes in the business environment and customers' needs.

Information Flow:
1. We communicate key business information to all employees through channels such as organization newsletters, department meetings, and/or all-personnel meetings.
2. We utilize advanced technology to improve the flow of information and to enhance our communications with one another (for example satellite TV, computer networks, electronic mail, cellular phones,, or pagers).

Individual and Team Development:
1. Work teams and long-term project teams have specific learning agendas.
2. Taking responsibility for our own learning and devleopment is considered part of our jobs.

Training and Education:
1. Educational programs include skill training on becoming more creative problem solvers.
2. Formal training programs provide us with tools, job aids, or processes that enhance on-the-job performance.

Rewards and Recognition:
1. We are recognized for solving business problems or successfully meeting challneges.
2. We share directly in the profits of the business through a profit-based reward system.

The dependent variable was assessed using Marquardt's (1996) Learning Organization Profile listed in his text "Building the Learning Organization." The profile has five subsystems. They include Learning Dynamics: Individual, Group/Team, and Organizational; Organization Transformation: Vision, Culture, Strategy, and Structure; People Empowerment: Employee, Manager, Customer, Alliances, Partners, and Community; Knowledge Management: Acquisition, Creation, Storage/Retrieval, and Transfer/Utilization; and Technology Application: Information Systems, Technology-Based Learning, and Electronic Performance Support Systems. There are a total of 50 questions in the profile where participants respond from 4 = applies totally to 1 = applies to little or no extent.

For this study, 48 working professionals in a Human Resource Development Master's Degree program volunteered to take both instruments. Of the 48, 27 were female, 21 were male, 16 were military, and 32 were civilian. Fifty questionnaires were handed out and 48 were returned for a 96 percent return rate.

Results and Conclusions

The Learning Organization Profile (Marquardt, 1996) and subsystems of the Learning Organization Practices Profile (O'Brien, 1994) were administered to 48 working professions with diverse occupations. Military personnel were either active duty military or Army National Guard Reserve members. Approximately half were officer and active duty while the rest held positions in a wide variety of occupations—teacher, administrator, manager, and so forth. Civilian personnel also held a wide variety of positions including human resource specialist, training manager, hospital administrator, educator, civil service manager, flight controller, and so forth.

Statistical analysis was completed using Statistical Package for the Social Sciences (SPSS). Descriptive statistics, Chronbach's alpha, one-way ANOVA, and multiple linear regression were utilized. The majority of participants were female (56 percent) and civilian (67 percent). Internal consistency reliability for this study was determined using Chronbach's alpha. This technique is versatile because it can be used with instruments made up of items that can be scored with three or more possible values. Overall, the five predictor variables reliability measured in the high .80s and low .90s with only one moderate alpha below .80 (range = .78 to .92) while the Learning Organization Profile (dependent variable) had a very high reliability measure of .97.

As noted in Table 1 and Table 2, this study determined there were two significant predictors of learning organizations when all five predictor variables were entered simultaneously using multiple linear regression. Rewards and recognition ($p = .003$) as well as training and education ($p = .045$) were predicted significantly and positively from the Learning Organization Profile. In other words, those participants who answered positively that they received rewards and recognition on the job and belong to an organization that emphasized training and education were most like to assess their work environment as a learning organization. These two areas accounted for 63 percent of the variance (see Table 3).

Gender as well as military versus civilian status was also explored as predictors of learning organizations. However, the data suggested there were no significant differences or predictors between men and women or military and civilian employees.

Table 1

ANOVA Table of Multiple Linear Regression

	SS	df	MS	F	Sig.
Regression	8.66	5	1.73	16.86	.000
Residual	4.32	42	.103		
Total	12.98	47			

$p < .05$

Table 2

Summary Table Showing Significant Standardized Betas for Independent Variables with the Learning Organization Dependent Variable

	Standardized Beta Coefficents	t	Sig.
Rewards & recognition	.52	3.13	.003
Training & education	.29	2.06	.045
Vision & strategy	.21	1.42	.164
Individual & team development	-.21	-1.21	.232
Information flow	.10	.76	.454

$p < .05$

Table 3

Table Showing R, R^2, and Adjusted R^2

	R	R^2	Adjusted R^2
Predictors	.82	.67	.63

How This Research Contributes to New Knowledge in HRD

Few empirical studies have been published on the subject of the learning organization. The majority of the research is theoretical in nature. This study focused on empirical research to attempt to determine practical approaches to developing learning organizations. The study determined two predictors out of five subsystems—rewards and recognition and training and education. Individuals within organizations who felt their work was appreciated, rewarded for taking chances, not punished for mistakes, and had a rewarding management system were overwhelming likely to define their workplace as a learning organization. To a lesser but still significant extent, training and education were predictive of learning organizations. That is, those individuals who felt their work environment was supportive of practices that included skill training, problem solving education, diagnostic tool support, encouragment to learn new skill and knowledge, and formal training programs tended to see their organization in the context of learning organizations. This is important to both scholars and practitioners for several reasons.

Human resource development professionals know learning organizations increased productivity and performance. Researchers have extolled the benefits of learning organizations--they lead to turn-around organizational achievement (see Garvin, 1993; Marquardt, 1995). Furthermore, researchers contend that such establishments developing learning organization practices result in increased organizational performance (Kline & Saunders, 1993; Kuchinke, 1995; Slater & Narver, 1995). There is little dissention that learning organizations are believed to be important to bottom line success.

The results of this study lend empirical evidence to theoretical logic. First, that appropriate rewards and recognition are an undergirding structure to the learning organization. When present, the findings suggested organization members viewed their enterprise as a learning organization. Second, that an environment of knowledge sharing and learning systems was an indication of learning organization.

Cahill (1997) has lauded the environment where mistakes are rewarded, accepted, and encouraged. This experience is what he refers to as a learning organization environment where rewards and recognition flow freely. The majority of questions in the Learning Organization Practices Profile (O'Brien, 1994) regarding rewards and recognition were intrinsic rewards. This is significant for two reasons. First, the cost of intrinsic rewards (appreciation, thank-you, pat on the back) is minimal yet we find the return on investment is statistically significant (accounting for 63 percent of the variance with training and education). Second, scholars such as Tobin (1998) and Bennett and O'Brien (1994) insist rewards and recognition are essential aspects of building a learning organization. Such a learning organization lead to employees who create a positive learning environment that encourages organization-wide learning and productivity—a recipe for success.

Training and education have important ramifications for HRD professionals seeking to develop learning organizations. It can be a valuable tool in workforce education. Wick and Leon (1993) note the advantages of training include subject matter in a timely fashion, baseline knowledge, introduction to new paradigms, and development of interpersonal skills. Applelbaum and Goransson (1997) see training as an inadequate but first step on the road to learning organization development.

The findings from this study support the notion that interventions intended to aid in the metamorphous from a current organization state to that of a learning organization, may wish to focus initially on two aspects. These aspects are the systems and indicators related to rewards and recognition, and training and education. The data recognizes reward and recoggnition as very significant. Especially of interest is the value of intrinsic reward. Posed within a cost benefit context, this reward emphasis and shift is inexpensive to achieve, quick to implement through moderately intense O.D. inteerventions, and is efficient in terms of time. As such, the return on investment (ROI) is great relative to tangible cost.

The other predictor of the learning organization resulting from the study was found to be training and education. Although this dimension of learning organization development and maintenance has more tangible costs, the outcomes in terms of possitive benefit are easily observed. Work by Geroy and Swanson (1987, 1986, 1984) has

shown not only predictive positive ROI potential, but summative bottom line improvement can be realized through strategic training investment. Beyond the ROI imperative, the investment in training and education supports the new paradigms of succession planning which emphasize pool candidacy preparation rather than replacement planning. In this model, individuals use the training and education opportunities to prepare for pools of qualified individuals who will be needed to situationally support and be valued in vertical, lateral, and downward mobility strategies to meet enterprise needs.

Based on the data from this study, it is our contention that HRD and HRM professionals should emphasize behaviors and strategic change, which focus on these two significant predictors of learning organizations. We suggest that the result will be maximization of the momentum toward the designed organization changes and performance which have been attributed though theoretical studies to the learning organization dynamic.

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Action Learning and Systems-level Continuous Learning

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Systems-level continuous, or organizational, learning, is an important element in building learning organizations. The results of an evaluation of an ongoing 2 year action learningprogram in a major Northeast utility company demonstrate that action learning can help to create the capacity for systems-level continuous learning.

Keywords: Action Learning, Systems-Level Continuous Learning, Organizational Learning

Much has been written in this decade about the need for organizations to develop the capacity for learning, in order to create and manage knowledge that can be used for organizational success—in other words become a learning organization (Marquardt, 1996; Marsick & Watkins, forthcoming; Redding & Catalanello, 1994; Senge, 1990; Watkins & Marsick, 1993;). One of the key components, and one of the more difficult endeavors in becoming a learning organization, is the development of systems-level continuous, or organizational, learning (Argyris & Schon, 1978; Marquardt, 1996; Marsick & Watkins, forthcoming; Redding & Catalanello, 1994).

A number of authors hold that action technologies (Brooks & Watkins, 1994)—particularly action learning—can be used to develop systems-level continuous learning (Dilworth, 1998; Marquardt, 1996; Marsick & Watkins, forthcoming; Watkins & Marsick, 1993). While there are stories of how action learning, and other methodologies, have been used to help build learning organizations, many tell the story of a short term intervention, interventions involving few people, or from the perspective of anecdotal data (Chawla & Renesch, 1995; Watkins & Marsick, 1996).

This paper looks at the question—Can action learning help to develop systems-level continuous learning within an organization? To help answer this question, the paper reports on the results of an organizational evaluation of an action learning program, involving over 250 people, ongoing in the Distribution department of Public Service Electric & Gas (PSE&G) in New Jersey for over 2 years. This evaluation demonstrates an impact on systems-level continuous learning in the organization.

Systems-level Continuous Learning/Organizational Learning

Many authors look at systems-level continuous, or organizational, learning as having two components (Argyris & Schon, 1978; Marquardt, 1996; Marsick & Watkins, forthcoming). The first component is described by Argyris and Schon as occurring when "members of the organization act as learning agents for the organization" (1978, p. 29) and by Marquardt as "through the shared insights, knowledge, and mental models of members" (1996, p. 37). Marsick and Watkins who adopt the approach of Argyris and Schon say that "people are appointed or otherwise anointed by followers, to act on behalf of a system. When these individuals learn, they can take their learning back to the system" (forthcoming).

The second component deals with ways in which this individual learning becomes a part of the organization. The process can be thought of in terms of "restructuring organizational theories of action" (Argyris & Schon, 1978, p. 29); building on past organizational memory and the sharing of knowledge, beliefs and assumptions (Marquardt, 1996); or having "structures, systems, and a culture in place to embed and support organizational learning in order to make it permanent and routine so that learning endures even if the people do not" (Marsick & Watkins, forthcoming).

The action learning program at PSE&G was designed with an evaluation process to look at both of these components. Ongoing evaluation looked at individual and team learning and how that learning was carried into the workplace. The topic of this paper, the organizational evaluation, looked at whether or not that learning had spread elsewhere in the organization.

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Action Learning

The concept of action learning originated with the work of Reg Revans in England in the 1940s (1989). It can be generally defined as follows:

> Action learning is an approach to working with, and developing people, which uses work on a real project or problem as the way to learn. Participants work in small groups to take action to solve their project or problem, and learn how to learn from that action. A learning advisor (or coach) works with the group in order to help them learn how to balance their work, with the learning from that work (O'Neil, forthcoming).

"One of the problems of describing action learning is that it means different things to different people" (Weinstein, 1995, p. 32). As a result, discussions and explanations of action learning programs can appear to be describing different, and sometimes contradictory, events. One way of thinking about differences in action learning is through the underlying basis by which practitioners view that learning takes place during action learning. O'Neil (forthcoming) has identified 4 "theoretical schools" of action learning that help to clarify some of these differences.

School	Scientific	Experiential	Critical Reflection	Tacit
Theory	Learning from problem solving - Alpha, Beta, Gama	Learning from experience	Learning through critical reflection	Incidental learning
Practitioner	Revans (1989)	McGill & Beaty(1995) Mumford (1996)	Marsick (1990) Pedler (1996)	Noel & Charan (1992)

Practitioners who espouse the Scientific school believe that action learning participants learn through solving their problem using methods based in the scientific method. Revans categorizes his theory of Systems Alpha, Beta and Gamma as a scientific based method for achieving managerial objectives (1982). Proponents of the Experiential school see Kolb's learning cycle (1984) as the basis by which individuals learn. In the Critical Reflection school, practitioners believe participants need to go beyond problem solving to problem posing, and reflection on the basic premises that underlie their thinking. Mezirow (1991) refers to this kind of reflection as "critical reflection". Marsick and Watkins refer to incidental learning as "never planned or intentional ... always tacit" (1992, pp. 7&8). The main differences between the Tacit school, and the other three, are its strong focus on the project and its lack of intentionality and planning for learning.

These "schools" do not officially exist, and are not intended to label practitioners in any way, but are intended to clarify differences in the literature and practice. Based on his/her view of how learning takes place in action learning, the practitioner will be influenced in how he/she designs the action learning program; how the learning advisor/coach may interact with the group; and in what he/she expects as outcomes from the program.

Public Service Electric & Gas Program

The PSE&G program was developed in 1996 to help the Distribution department learn how to be successful in the new competitive environment that was quickly replacing their former regulated, hierarchical world. The objectives established for the program were:

> Enhance the way people communicate and interact with one another.
> Weave quality tools and behaviors into the fabric of the organization.
> Develop and use problem solving and coaching skills.
> Develop an environment of openness and trust and get conflict out on the table.

After two initial pilot sessions, which included the target population (supervisors and managers) in the first pilot, and the senior leaders of the organization in the second, the program has completed 9 sessions with a total of over 250 participants. Each session averages 28 participants formed into 4 teams. The teams address team projects sponsored by senior leaders in the organization. Each team meets for a minimum of 6 ½ days over a 6 week period with a learning coach, and additional days on their own. At the end of the session, each team proposes

recommendations to the entire senior leadership team. Most teams are involved in implementation of their recommendations after the end of the session.

Based on the needs of the organization, and on the beliefs of the action learning practitioner co-designing the program, the design of the initiative would place it in the Experiential school, with some design elements intended to support learning through critical reflection as well. For example, teams used a learning style inventory to help with understanding learning from experience, and an exercise to examine assumptions was used with teams as they began work on their projects. The overall design was aimed at helping develop individual, team and organizational learning. The evaluation process was to determine the success of these efforts.

Methodology

As discussed earlier, there is ongoing evaluation during, and after, each program in order to determine what individuals and teams have learned, and what learning they have carried back to the workplace. In order to try to begin to determine if this individual and team learning was evolving into shared knowledge, if it was becoming more permanent and routine, a 2nd evaluation effort was undertaken. The intent of this 2nd evaluation effort was to try to determine what former participants were seeing elsewhere in the organization that indicated whether or not learning and change were taking place.

The method used for the evaluation was semi-structured interview questions. This method was chosen since the researcher/evaluator was trying to find out past participants' perceptions of their environment and of the action of people around them (Brookfield, 1987), and needed the flexibility to probe for more details and investigate new areas as they arose (Grandstaff and Grandstaff, 1985). There were 4 questions developed that aligned with the 4 objectives of the initiative. The questions used were:

1. Have you found other people in Distribution who are able to say things more openly with you and with others since the start of the program? Why do you think that is?
2. Do you see more teamwork (cooperation) with others inside and outside your department since the start of the program? Why is that?
3. Do you feel people are acting any differently when there is a disagreement now than before the program? What do you think the reason is for that?
4. Do you see the quality tools, or the ideas behind them, being used more now than before the program? What is causing that?

A researcher not connected with the program made the calls. He made the calls on 5/11, 6/15, 7/26, and 7/29-7/31/98. He made attempts to reach all participants who had attended sessions from the pilot through the 6th session—a total of about 200 participants—and was successful in reaching 77 participants who had the time to participate in the interview. The interviewer transcribed responses directly into a computer.

Since the evaluation was trying to determine if there was any evidence of systems-level continuous learning, the following criteria was developed to code the interviews:

Yes, without qualification—interviewee strongly stated/indicated that he/she had seen evidence of learning and change.
Yes, with qualification—interviewee stated/indicated, with some reservation/qualification, that he/she had seen evidence of learning and change.
No, with qualification—interviewee stated/indicated, with some reservation/qualification, that he/she had not seen evidence of learning and change.
No, without qualification—interviewee strongly stated/indicated that he/she had not seen evidence of learning and change.

Two researchers coded the first 5 interviews in order to establish inter-rater reliability. These interviews were coded independently by both researchers, results compared and discussed, and discrepancies resolved. After this check, the first researcher coded the remaining interviews.

Findings

Shown below are the findings from the interviews that are broken down by individual questions. Examples of interviewees' responses from each category are also provided.

1. Have you found other people in Distribution who are able to say things more openly with you and with others since the start of the program? Why do you think that is?

	Number of participants	Percentage of total responses
Yes, without qualification	31	40.3
Yes, with qualification	19	24.7
No, with qualification	15	19.5
No, without qualification	12	15.5
Total	77	100.0

Yes, without qualification—"Yes, I think the program has allowed them to focus their attention in a manner that they are not afraid to speak up whether they say it the right way or not."
Yes, with qualification—"Yes, the supervisors here that have gone through the program are a little bit more open to say things than the ones that have not gone through it"
No, with qualification—"No, I think we have always had an open dialogue. ... One difference I was put in a situation ... the moderator asked me a question about the new organization and I gave it. In the past the person leading the meeting would not have even asked that question and I would not have had the opportunity to volunteer."
No, without qualification—"No, I have not seen any change. The people who were good communicators before are still good communications, and those that were not before the program are still not."

2. Do you see more teamwork (cooperation) with others inside and outside your department since the start of the program? Why is that?

	Number of participants	Percentage of total responses
Yes, without qualification	37	48.0
Yes, with qualification	17	22.1
No, with qualification	16	20.8
No, without qualification	7	9.1
Total	77	100.0

Yes, without qualification—"Our teamwork is excellent. I know that as we move towards a more competitive environment, we need to work even closer together. I think that people are much better at listening."
Yes, with qualification—"Yes I do see more cooperation between the lower echelon trying to have partnerships. Management up on top seems to still want the control, and you can cut them right in half in that regard."
No, with qualification—"No. I do see more, but I am not sure what is causing it. We have been going through downsizing, which I believe is causing us to keep more people in the loop. It is possibly a combination of the two."
No, without qualification—"No, I think a lot of it has to do with ego, and our goals do not compliment each other's goals".

3. Do you feel peoplle are acting any differently when there is a disagreement now than before the program? What do you think the reason is for that is?

	Number of participants	Percentage of total responses
Yes, without qualification	32	41.6
Yes, with qualification	20	26.0
No, with qualification	19	24.6
No, without qualification	6	7.8
Total	77	100.0

Yes, without qualification—"Yes, they are more willing to listen, to take two steps back and listen. Before people would be argumentative."

Yes, with qualification—"Yes, I might have a disagreement with someone at my level. In the past there would be a stalemate, but now are supervisors are watching, and they will step in to rectify the situation if necessary. So I think resolving disagreements is happening."

No, with qualification—"People are listening and understanding more in disagreements, but to say they are acting differently, I can't say."

No, without qualification—"No, the culture is entrenched, and I do not think that the program is going to change PSE&G's culture."

4. Do you see the quality tools, or the ideas behind them, being used more now than before the program? What is causing that?

	Number of participants	Percentage of total responses
Yes, without qualification	46	59.7
Yes, with qualification	15	19.5
No, with qualification	11	14.3
No, without qualification	5	6.5
Total	77	100.0

Yes, without qualification—"Yes, absolutely because people are aware of the quality tools. ... If I tell a person the answer is no, I now explain why. This has already helped me in my communication skills."

Yes, with qualification—"We have talked a lot about the quality tools before the program. ... However the people that have attended the program have shown an improvement in using the quality tools. They are more aware of how to use these tools."

No, with qualification—"I think it is an inconsistent message from upper management, and they do not lead by example. ... Upper management is demanding we follow the quality behaviors, but they do not always themselves."

No, without qualification—"No, you need time to systematically solve problems and we are always fighting fires. We are not given an opportunity to use them properly. There is a lot more frustration because of that."

Analysis and Conclusions

The findings indicate that the individual and team learning participants gained from the action learning program has begun to become a part of the organization. Going back to the earlier stated descriptions of systems-level continuous/organizational learning, interviewees have begun to see some restructuring of organizational theories of action, "Yes, I think that people are starting to believe that upper and middle management want people to express their feelings and ideas". Some of what is being seen builds on past organizational memory, and is changing the mental models in the organization.

> "Yes, we are not a lot of hot heads anymore. We are acting more grown up, more mature, more professional. We have less stress because of the way we are dealing with disagreements. We are using more of the reflection part of the program. It is more of an "us" concept."

There is evidence that there are systems in place to help learning endure, "We are starting to get a complete buy in on the program, and I am starting to see that happening both inside and outside the department".

One way to think about why this action learning program has helped PSE&G develop systems-level continuous learning is by looking at the intervention through the lenses of some of the learning organization theories in the literature. Some of these theories include Senge's 5 disciplines (1990); Beckhard and Pritchard's profile of a learning organization (1992); Redding and Catalanello's theory of strategic readiness (1994); and Marsick and Watkins' action imperatives (forthcoming; Watkins & Marsick, 1995). Marsick and Watkins' framework seems most appropriate to use for analysis since they most explicitly advocate the use of action technologies such as action learning to help create learning organizations.

In their work, they discuss action imperatives—activities in which they think organizations need to engage in order to become learning organizations—at the individual, team and organizational level. At the organizational level, they have found 4 action imperatives—establish systems to capture and share learning, empower people towards a collective vision, connect the organization to its environment, and provide strategic leadership for learning. PSE&G has engaged in activities in support of the action learning program that fit with these action imperatives.

In order to help establish systems that will serve to capture and share the learning coming from the action learning program, PSE&G has made a number of efforts. Key to sharing learning has been the decision and dedication to have a significant number of members of the organization participate in the program. To date, there have been over 250 graduates, and the commitment to enable a total of 60% of the population to attend the program by the end of 1999. In order to continue to sustain learning in graduates, the organization has had 2 "learning days" during which up to 90 graduates participated in exercises to review and reinforce what they took away from the program. Finally, the organization has begun to integrate the expected learning and change into their evaluation system.

The vision for change and transformation in the organization has been frequently and clearly communicated by the senior vice president and other senior leaders since the beginning of the program. The vision stresses the importance of a combination of new behavior and results in order to achieve success. The senior vice president stresses this vision at every opportunity both within and outside of the program. The new behaviors wanted in the organization are further reinforced through the objectives of the program.

PSE&G has an established history of being connected with the community and environment. This connection has been seen in the program, as well, through the choice of some of the projects for teams. These projects have included improving interaction with municipalities, customer service oriented projects, and projects that have stressed volunteerism in the community.

Finally, providing strategic leadership for learning showed up in several ways. The senior vice president and his senior leaders all attended the program as participants in the 2nd pilot session. As the program rolled-out in the organization, the senior leaders assumed the sponsorship role, with many of them sponsoring more than 1 team. The program ends with a full day of presentations with the teams focusing on their learning and their project recommendations. Unless they happen to be out for the day, the senior vice president and all his senior leaders attend every closing day session.

This action learning program has provided a means through which PSE&G has been able to create and sustain systems-level continuous learning. Part of the reason for this may be the magnitude and duration of the intervention. It also appears that the organization has been working to implement a number of action imperatives that Marsick and Watkins' research have demonstrated are important for systems-level continuous learning.

Based on these results, future research in this area could look at a number of issues. How extensive does an intervention need to be to generate systems-level continuous learning? What other kinds of interventions would be as effective as action learning? What else are organizations doing (or should be doing) to reinforce and sustain systems-level continuous learning?

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